



Does the top manager's profile influence sustainable development in local governments? Evidence from Brazil

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<https://dx.doi.org/10.5209/cgap.94709>

Recibido: 23/02/2024 • Aceptado: 13/05/2024

ENG Abstract. This study analyzes the influence of the top manager's profile on sustainable development in

local governments. In this research, we investigate 184 municipalities of the State of Ceará, northeastern Brazil, from 2009 to 2016. Data was analyzed through descriptive statistics and econometric models estimated by FGLS method for panel data. The results show that sustainable development is influenced by the following top manager's attributes: age, socioeconomic status, experience, education, and political orientation. From a theoretical perspective, the study provides evidence that the Upper Echelons Theory is consistent and applicable in the public sector, and expands the theory by including political orientation, which emerged as a relevant manager's attribute.

Keywords: Top manager's profile; Sustainable development; Local governments; Upper Echelons Theory.

ES ¿El perfil del alto directivo influye en el desarrollo sostenible de los gobiernos locales? Evidencia de Brasil

ES Resumen. Este estudio analiza la influencia del perfil del alto directivo en el desarrollo sostenible de los gobiernos locales. En esta investigación, investigamos 184 municipios del Estado de Ceará, noreste de Brasil, de 2009 a 2016. Los datos fueron analizados mediante estadística descriptiva y modelos econométricos estimados por el método FGLS para datos de panel. Los resultados muestran que el desarrollo sostenible está influenciado por los siguientes atributos del alto directivo: edad, nivel socioeconómico, experiencia, educación y orientación política. Desde una perspectiva teórica, el estudio proporciona evidencia de que la teoría de las altas esferas es consistente y aplicable en el sector público, y amplía la teoría al incluir la orientación política, que surgió como un atributo relevante del gerente.

Palabras clave: Perfil del alto directivo; Desarrollo sostenible; Gobiernos locales; Teoría de las altas esferas.

Summary: 1. Introduction. 2. Theoretical background. 3. Research hypotheses. 4. Methodology. 5. Results and discussion. 6. Final remarks. 7. References.

Citation: Moreira da Silva, C. R.; Lima Crisóstomo, V. (2024). Does the top manager's profile influence sustainable development in local governments? Evidence from Brazil, en *Cuadernos de Gobierno y Administración Pública* 11(1), e94709. <https://dx.doi.org/10.5209/cgap.94709>

1. Introduction

In the public sector, development is conceived as a performance measure since the objective of public management must be the promotion of collective well-being (Mendes Vieira et al., 2022; Silva and Crisóstomo, 2019). Given the importance of sustainability to social welfare, it may be considered that the government must seek sustainability and sustainable development. Therefore, the government may act as a key agent for meeting the sustainable development goals (Abhayawansa et al., 2021). According to Alińska et al. (2018), government plays an important role in achieving sustainable development, since public managers are responsible for strategic choices within the government, such as the application of financial resources and the formulation of public policies.

Previous studies have been dedicated to investigating how decisions are made in public and private organizations (Pont Vidal, 2016). According to the Upper Echelons Theory [UET], top managers are responsible for the strategic choices in the organization, and their strategies are influenced by their cognitive base and values (Hambrick and Mason, 1984). Due to this responsibility, examining personal attributes of individuals who occupy top management positions emerges as relevant under the proposal that cognitive base and values may have importance in shaping the organization decision-making process (Hambrick, 2007).

The UET suggests that the way managers understand a given situation may impact their strategic decisions and, consequently, also the organization's performance (Hambrick and Mason, 1984; Hambrick, 2007). In fact, under the Agency Theory (Jensen and Meckling, 1976), relevant literature has appraised whether managers' features matter for the shaping of firm policies (Aboramadan, 2021). In the context of public management, it is conceivable that UET may be an additional instrument to use in the understanding of how public policies and initiatives, which are, *a priori*, planned to improve government's performance and people welfare, are planned and modeled, taking into account the public managers' personal attributes.

Good performance in public management must be related to meeting social demands. In fact, the development of society and its well-being should be the main goal of the government (Mendes et al., 2022; Silva and Crisóstomo, 2019; González et al., 2018). In general, the government is expected to act in the interests of citizens, performing responsibly and focusing on the collective interest (Motta, 2013). The quality of public management is proposed as able to effectively foster sustainable development (Tarverdi et al., 2019; Noja et al., 2019; Gaygisiz, 2013) which comprises social, economic, and environmental aspects (Millán Acevedo, 2022).

Governments and public entities have come to occupy an important position in the search for sustainable development, being the main players responsible for the implementation of goals and strategies dedicated to economic, social, and environmental development (Omer and Noguchi, 2020). The role of government is even more prominent in emerging economies. In these environments, the government plays an essential role in managing resources, with a focus on sustainable development (Anwar et al., 2020).

It is suggested that local governments play an important role in promoting a favorable environment for sustainable development (Atisa et al., 2021; Wang et al., 2014). Municipal governments have an active role in the national and regional economy, especially in developing countries, playing an increasingly important role in political, economic, and social issues (Yong and Wenhao, 2012). Considering the Brazilian context, an important developing country, it is relevant to investigate the determinants of sustainable development under the public management framework, such as public managers' profile (Kim, 2021).

In this regard, this study aims to analyze the possible influence of the top manager's profile on sustainable development in local governments. Although the existing literature highlights that other elements may be associated with sustainable development in local governments, such as political, economic, social, cultural, governmental, structural, and institutional conditions (Bisogno et al., 2023; Mutiarani et al., 2020; Guo et al., 2018; Saha, 2009), this study focuses on investigating the influence of the manager's profile on sustainable development in local governments. It is important to highlight that local governments play a prominent role in public administration and tend to fulfill a significant role in the context of development (Atisa et al., 2021; Ramió Matas, 2016; Wang et al., 2014).

Investigating the relationships between the top manager's profile and sustainable development in Brazil is an important agenda. Some regions of Brazil have been marked by a historical context of poverty and social inequality, as is the case of the Northeast Region (Câmara et al., 2016; Silva and Crisóstomo, 2019). The research context of this study is the municipalities of the State of Ceará, located in the Northeast Region of Brazil. It is noteworthy that most municipalities in Ceará have low capacity for public fundraising (Fontinele et al., 2014), as well as not very high levels of development, making the role of public management even more relevant in those municipalities (Crisóstomo and Silva, 2020).

2. Theoretical background

The UET advocates that organizational outcome (*i.e.*, strategic choices and performance) are partially predicted by top managers' attributes (Hambrick and Mason, 1984). Aspects such as cognitive basis, values and observable characteristics of top managers may influence their interpretations of the situations they face and, in turn, affect how strategic choices are made, also impacting organizational results (Hambrick, 2007; Hambrick and Mason, 1984). Thus, to understand the organizational phenomena, it seems important to examine top managers' characteristics (Hambrick, 2007).

According to Hambrick (2007), considering the difficulty involved in obtaining conventional psychometric data from top managers, researchers can reliably use the characteristics of those managers to make predictions about their strategic actions. The author also claimed that there is evidence that the manager's

demographic profile is related to strategy and performance, and the use of observable characteristics has been applied in other areas in order to predict behavior (Hambrick and Mason, 1984). The application of the UET in the public sector has become a topic of interest among researchers although the differences between public and private organizational contexts (Donatella and Tagesson, 2021; Anessi-Pessina and Sicilia 2020; Mohamed and Mohd-Saleh, 2017; Esteve et al., 2013).

In the public sector, in most countries, as is the case of Brazil, the top manager is usually chosen through public consultations (*i.e.*, elections) on which inhabitants are expected to take into account candidates' qualification, which comprises personal attributes, civil service experience, managerial ability, political orientation, and political connections and arrangements. In this research, top managers specifically refer to municipal mayors, who are elected leaders. It's important to note that, although various actors play roles in the managerial and political landscapes of local governments, mayors hold a central position in this context (Grin and Abrucio, 2019), and serve as leaders and pivotal figures responsible for making crucial strategic decisions. This emphasis is particularly significant in Brazil, where the Strong Mayor model is implemented, granting the municipal leader (*i.e.*, the mayor) extensive political-administrative authority (Lino et al., 2019).

This process is more complex than the one observed in private organizations, in which, top managers are typically chosen and hired by firm owners based on specific skills or industry experience, leading to a more homogeneous group of top executives with similar backgrounds and perspectives (Kim, 2021; Hambrick and Mason, 1984). Besides, firm objective is also distinct from that inherent to public government. Therefore, it is necessary to adapt the UET before applying to the public sector. In this study, the following politician attributes are considered: age, socioeconomic status, gender, experience, education, and political orientation. Furthermore, in this study, we propose sustainable development as an outcome of the managers' attributes.

Government interventions play an essential role in advancing the sustainable agenda, especially in emerging economies and developing countries (Anwar et al., 2020), such as Brazil. Like national governments, local governments are fundamental to providing an adequate and conducive environment for sustainable development (Atisa et al., 2021; Krause et al., 2019; Krause et al., 2016). Governments and governmental entities are primarily responsible for implementing and monitoring the Sustainable Development Goals [SDGs] at different levels (Omer and Noguchi, 2020). At the municipal level, mayors strive to have control over sustainability activities, especially when this can affect their political careers, making them important actors in this context (Feiock et al., 2017).

It is argued that the capacity of local government concerning sustainability initiatives involves two main perspectives: administrative and financial (Hawkins and Krause, 2021). Both perspectives are influenced by the decisions made by the top manager – in this study, the mayor. Thus, government plays a key role in development, since, in addition to applying financial resources and offering public goods, it acts as a formulator of public policies and can seek ways to integrate other agents in strategies focused on sustainable development (Alińska et al., 2018). Thereby, governments should seek ways to strengthen the implementation of the SDGs (Janowski, 2016).

3. Research hypotheses

According to the UET, older managers may be more resistant to adopting new behaviors, avoiding making changes in the organizational context in which they work (Hambrick and Mason, 1984), while younger managers seem to be more likely to implement new ideas (Anessi-Pessina and Sicilia, 2020) and make riskier strategic decisions (Hambrick and Mason, 1984). In the public sector, riskier behavior of younger public managers seems to be an ambiguous cognitive factor, given that it can benefit strategic choices in the sense of implementing more innovative solutions, such as interorganizational collaboration (Esteve et al. 2013), but it may also lead managers to adopt inappropriate practices, such as accounting manipulation (Anessi-Pessina and Sicilia, 2020). On the other hand, younger managers tend to be highly concerned about the development of their own careers (Esteve et al., 2013), which may lead them to engage in more results-focused management strategies, ensuring a good image as a manager, focusing on reaching other political positions in the future. In this context, the following hypothesis is proposed:

Hypothesis 1: The age of public top manager is positively linked to sustainable development in local governments

Regarding the top manager's socioeconomic status, it is noteworthy that, at the time of the formulation of the UET, there was no tendency in the literature to seek to relate the socioeconomic origin of managers with their strategic choices and performance, given that, apparently, there were high levels of homogeneity between the socioeconomic origins of firms' top managers (Hambrick and Mason, 1984). In the Brazilian public sector, this reality does not appear to be different, given the Brazilian reality, with the literature suggesting that men with higher education and wealth are more likely to be elected (Braga et al., 2009). However, the UET proposes that organizations whose top managers come from lower socioeconomic groups tend to pursue unrelated acquisition and diversification strategies, showing greater growth and earnings variability than companies whose managers come from higher socioeconomic groups (Hambrick and Mason, 1984).

Nevertheless, according to the authors, it is not possible to conclude whether, the humble origin of a top manager is indeed a determining factor of business strategies. On the other hand, Shipilov and Danis (2006) argue that managers with high socioeconomic status, in addition to having social ties that favor career advancement, have a more powerful external resource network. In this way, a higher socioeconomic

status enables a broader and more powerful social and political network, which may help managers form more partnerships and obtain projects from external sources that may foster local development. Thus, the following hypothesis is proposed:

Hypothesis 2: Public top manager's socioeconomic status positively influences sustainable development in local governments

Under the Upper Echelon theoretical framework, gender was later introduced as a relevant manager attribute (Carpenter et al., 2004; Abatecola and Cristofaro, 2020). This attribute may also have a rationale in the public sector under the argument that men and women may differ in the way they manage public organizations (Esteve et al., 2013; Meier et al., 2006). According to the literature, women tend to be less likely to engage in unethical behavior, and are also more risk averse than men (Anessi-Pessina and Sicilia, 2020).

In addition, it has been argued that women are more oriented towards socio-environmental issues, while men are more focused on economic performance (Jiang and Akbar, 2018). There is evidence that organizations with a greater number of women in top management tend to have better economic (Reguera-Alvarado et al., 2017), social (Cabeza-García et al., 2018), and environmental (Kassinis et al., 2016) performance. Thus, it is suggested that the presence of women in top management positions in the public sector may be associated with better organizational performance. Based on this, the following hypothesis is proposed:

Hypothesis 3: Women as public top managers favor sustainable development in local governments

In relation to the top manager's experience, two different perspectives are taken into account under UET. The first is related to the manager's functional track. The functional track is associated with the top manager's main area of activity, that is, the area in which he/she concentrates his/her professional performance and has a greater background of study and training (Esteve et al., 2013). Thus, top managers are expected to have a background acquired from previous experience in some primary functional area which may influence their strategic decisions (Hambrick and Mason, 1984).

A second perspective is that other experiences in different organizational contexts also influence the top manager's strategic choices (Hambrick and Mason, 1984). It has been suggested that previous experience can be recognized as an additional source of knowledge and this experience in different organizations or functions influences the way managers perceive a situation and, consequently, how they make their strategic decisions (Donatella and Tagesson, 2021; Hambrick and Mason, 1984). In the case of public sector, public manager's previous experience in political positions, be it in the executive or in the legislative branch, means that the politician has already experienced the relation with inhabitants and also the dynamics of the complex public management process for accomplishing projects, which may help his/her future behavior as a top manager. Thus, the following hypothesis is outlined:

Hypothesis 4: Public top manager's previous political experience positively influences sustainable development in local governments

Regarding the top manager's education, it has been argued that, in the public sector, the level of education generally varies little among officers who occupy similar positions (Anessi-Pessina and Sicilia, 2020). However, in the context of Brazilian local governments, there may be a greater variation in the education of municipal managers. The educational level of elected mayors in Brazil has grown in recent years. In 2000, 38.7% of elected mayors declared they had completed higher education, whereas in 2016, this percentage increased to 52.5% (Dufloth et al., 2019). Despite this improvement in the education of local managers, almost half of the municipal public managers elected in 2016 did not have a college degree, which leaves room for this characteristic to be explored. It is argued that a manager's education is indicative of his/her skills and knowledge, which may influence his/her strategic decisions (Esteve et al., 2013; Hambrick and Mason, 1984).

Furthermore, it is argued that the manager's educational background affects his/her mindset regarding problem solving (Chen et al., 2019; Wang et al., 2015). Thus, managers with larger educational background are expected to be more capable of dealing with organizational issues (Al-Matari et al., 2020). Based on this, it is understood that managers with higher education levels have more cognitive resources to interpret a given situation, having a greater basis for making their strategic decisions, which can result in better organizational performance. Thus, the following hypothesis is outlined:

Hypothesis 5: Public top manager's educational level is positively related to sustainable development in local governments

Regarding the top manager's political orientation, the impact of political parties on the development of the welfare state has been the subject of previous studies, especially regarding welfare policies such as health, education, and social security (Imbeau et al., 2001). Studies have suggested that conservative beliefs, characterized by resistance to change and acceptance of inequality, are usually associated with right-wing ideology. On the other hand, left-wing orientation is generally associated with a drive for social and economic equality (Aspelund et al., 2013).

The political preferences of parties are capable of predicting aspects such as government social spending, or even macroeconomic results (Tarouco and Madeira, 2013). In Brazil, with the rise of left-wing governments, investment in social policies grew, resulting in greater development (Silva et al., 2019). In addition, the government agenda began to prioritize issues such as poverty eradication and access to essential rights, including education, health, and housing (Faé et al., 2016; Silva et al. 2019). Based on this, the following hypothesis is outlined:

Hypothesis 6: Public top manager's left-wing political orientation is positively linked to sustainable development in local governments

4. Methodology

4.1. Sample

Research sample is a panel data set composed by 1,472 city-year observations from 184 municipalities in Ceará, a State in northeast of Brazil, in the period 2009–2016. This period corresponds to two municipal tenures: 2009–2012 and 2013–2016. Each observation represents a specific year within a municipality. By using this panel data structure, it is possible to examine the temporal dynamics of the phenomenon. Data was hand collected from public data websites for the whole period of study comprising all data available on the date. Data were collected from the following public databases: Institute of Research and Economic Strategy of Ceará [*Instituto de Pesquisa e Estratégia Econômica do Ceará* – IPECE]; Secretary of Education of the State of Ceará [*Secretaria da Educação do Estado do Ceará* – SEDUC-CE]; Secretary of the Environment of the State of Ceará [*Secretaria do Meio Ambiente do Estado do Ceará* – SEMA-CE]; Federation of Industries of the State of Rio de Janeiro [*Federação das Indústrias do Estado do Rio de Janeiro* – FIRJAN]; National Treasury Secretariat [*Secretaria do Tesouro Nacional* – STN]; Court of Auditors of the State of Ceará [*Tribunal de Contas do Estado do Ceará* – TCE]; and Superior Electoral Court [*Tribunal Superior Eleitoral* – TSE].

4.2. Measures and variables

4.2.1. Sustainable development measure

The construct sustainable development was measured under a multidimensional perspective, taking into account economic, social, and environmental aspects. Thus, Gross Domestic Product (GDP) and Gross Domestic Product per capita (GDP_PC) were adopted as measures for economic development. To assess social development, two proxies are used: the FIRJAN Municipal Development Index IFDM [*Índice FIRJAN de Desenvolvimento Municipal*] and the Municipal Development Index IDM [*Índice de Desenvolvimento Municipal*]. The IFDM is a multidimensional indicator similar to the Human Development Index [HDI], calculated by FIRJAN, which combines elements from three basic areas of development: (i) employment and income; (ii) education; and (iii) health. The IDM is calculated by IPECE [Institute of Research and Economic Strategy of Ceará] and evaluates development based on the following aspects: (i) physiographic, land, and agricultural; (ii) demographic and economic; (iii) support infrastructure; and (iv) social. Both indicators appraise municipality performance from 0 (worst) to 1 (best). Environmental development was measured by the Municipal Environmental Quality Index IQM [*Índice de Qualidade do Meio Ambiente*]. The IQM is calculated by SEMA-CE [Secretary of the Environment of the State of Ceará] based on municipal solid waste management. The IQM ranges from 0 to 1, *i.e.*, worst to best municipality performance.

4.2.2. Manager's profile variables

In relation to the variables associated with the manager's profile, aspects outlined by the UET concerning observable characteristics were considered (Hambrick and Mason, 1984). The variables were selected based on findings and discussions from previous studies conducted within the public sector (Bolognesi et al., 2023; Carvalho and Ferreira, 2023; Anessi-Pessina and Sicilia, 2020; Tarouco and Madeira, 2013; Esteve et al., 2013). The descriptions of the variables are presented in Table 1.

Table 1. Manager's profile variables.

Manager's Characteristic	Variable	Code	Hypothesis
Age	Manager's age in the observed year.	AGE	H1
Socioeconomic Status	Natural logarithm of the assets declared by the public manager in Brazilian reais (R\$).	SOCES	H2
Gender	Dummy variable: 1 for female, 0 for male managers.	GENW	H3
Experience	Dummy variable: 1 for re-elected managers, 0 for non-re-elected managers. Re-elected managers were identified by consulting the "previous elections" tab, assigning a value of 1 to those who were also elected in the municipal election prior to the period analyzed.	RE_EXP	H4
	Dummy variable: 1 for managers with legislative experience, 0 otherwise. Managers with prior election experience in municipal, state, or federal legislatures were assigned a value of 1 after consulting the "previous elections" tab.	LEG_EXP	
Education	Manager's years of education.	EDU	H5
Political Orientation	Variable ranging from 0 to 10 indicating the ideological orientation of the manager's party: closer to 10 indicates a right-leaning orientation, while closer to 0 indicates a left-leaning orientation.	POL_OR	H6

Source: Prepared by the authors.

The first characteristic investigated was the manager's age (AGE). The socioeconomic status (SOCES) is calculated based on the personal assets declared by the manager within electoral court (TSE). The natural logarithm of the manager's total assets was used. The third variable concerns the manager's gender (GENW), a binary variable (dummy) that assumes a value of 1 for female and 0 for male.

The manager's experience in political positions was proxied by two variables. First, we took into account the fact that the mayor (top manager in municipality) was elected for a second term (RE_EXP). *A priori*, the fact of mayor reelection means that the mayor's recent previous experience as the city mayor was positively taken into account by inhabitants. In Brazil, mayors are elected for a four-year term with the possibility to be a candidate for a second term. Reelection (RE_EXP) consists of a binary variable (dummy), which assumes a value of 1 for the reelected managers and 0 otherwise. Previous experience in the legislative branch (parliament) - municipal, state or federal - is also something that, *a priori*, gives the politician experience in dealing with public administration and with people demands. In the case of experience in the legislative branch, the variable LEG_EXP is a binary variable (dummy), which takes the value 1 when the manager has previously been elected to a position in the legislative branch (*i.e.*, municipal, state, or federal) and 0 otherwise.

Education (EDU) was measured by the manager's years of study, considering each of the following status: reads and writes (1 year of study); incomplete elementary education (5 years of study); complete elementary education (9 years of study); incomplete high school (10 years of study); complete high school (12 years of study); incomplete higher education (14 years of study); and complete higher education (16 years of study). Finally, political orientation (POL_OR) was measured based on the study by Bolognesi et al. (2023) which assessed political parties in Brazil setting a value from 0 (most left oriented) to 10 (most right oriented). In this work, political orientation of public manager is proxied by the degree of his/her political party orientation which is imported from the work of Bolognesi et al. (2023).

4.3. Models and econometric method

To test the research hypotheses, econometric models are estimated in which economic development (GDP and GDP_PC), social development (IFDM and IDM), and environmental development (IQM) are the dependent variables. The independent variables are: age (AGE), socioeconomic status (SOCES), gender (GENW), reelection (RE_EXP), legislative experience (LEG_EXP), education (EDU), and political orientation (POL_OR). The analysis procedures used in this study comprise descriptive analysis and multivariate analyses. Models are estimated using Feasible Generalized Least Squares (FGLS) for panel data, which corrects problems of heteroscedasticity and autocorrelation of residuals (Wooldridge, 2002).

5. Results and discussion

Table 2 presents descriptive statistics of the sustainable development variables (economic, social, and environmental). Data on the economic dimension of development suggest high heterogeneity levels in terms of GDP and GDP_PC among municipalities (high coefficients of variation - CV) which is interesting to the research given that the sample cities vary from lower to higher economic activity avoiding bias (Table 2). This dispersion may be related to differences in the size of municipalities, which directly impact their ability to generate wealth. It is noteworthy that, although GDP and GDP_PC represent the economic performance of a given location, this is still a limited element with regard to the assessment of development from the perspective of social well-being (Massardi and Abrantes, 2015).

Table 2. Descriptive analysis of public governance and sustainable development variables.

Variable	N	Mean	Min.	Max.	St. Dev.	CV
GDP*	1,472	568,849.41	18,992.70	60,141,145.20	3,601,153.96	6.331
GDP_PC	1,472	7,064.86	1,671.86	59,097.86	4,736.07	0.670
IFDM	1,471	0.630	0.420	0.886	0.065	0.103
IDM	736	0.253	0.064	0.767	0.106	0.419
IQM	1,472	0.275	0.000	1.000	0.187	0.680

Note. *GDP values are presented on a scale of R\$/1,000. Source: Research data. GDP = Gross Domestic Product; GDP_PC = Gross Domestic Product per capita; IFDM = FIRJAN Municipal Development Index; IDM = Municipal Development Index; IQM = Municipal Environmental Quality Index.

There seems to be similar levels of social development given that the Municipal Development Indices (IFDM and IDM) signal certain homogeneity among municipalities as can be seen by the low dispersion (low CV) in keeping with previous studies (Leite Filho and Fialho, 2015; Crisóstomo and Silva, 2020). Although both indicators assess social aspects, it can be observed that the IDM has lower average than IFDM which happens due to differences in methodology.

Concerning the environmental dimension, it can be observed that the Municipal Environmental Quality Index (IQM) presents low average (0.275), suggesting that, in general, municipalities experience difficulties in managing solid waste. It has been argued that the analysis of indicators of this nature helps to predict future situations and can contribute to the planning of strategies focused on sustainability (Frainer et al., 2017).

Table 3 presents descriptive statistics of variables related to public manager attributes: age, socioeconomic status, and political orientation. As can be seen, the average manager's age is 49.5 years, and their average

assets (socioeconomic status) exceed half a million *reais* (R\$ 546,292.35, approximately U\$ 107,525.19). Regarding political orientation, the average is 5.97, indicating strong right political orientation.

Table 3. Descriptive analysis of age, socioeconomic status, and political orientation.

Variable	N	Mean	Min.	Max.	St. Dev.	CV
Age	1,472	49.5	22	90	10.5	0.212
Socioeconomic Status	1,472	546,292.35	0	17,495,823.99	1,401,866.61	2.566
Political Orientation	1,472	5.97	1.92	8.57	1.88	0.315

Note. Source: Research data.

Descriptive statistics of the other public top managers characteristics (gender, reelection, experience in the legislature, and education) are presented in Table 4. It can be observed that women as public managers are minority (14.4%), as expected. In parallel, only 33.7% has previous experience in the position and were re-elected. Experience in the legislative branch is also low among public managers (15.5%). A bit more than half of the mayors (50.8%) has completed higher education. This profile picture matches with the one previously found in Brazil (Dufloth et al. 2019). When analyzing the profile of mayors elected in Brazil between 2000 and 2016, Dufloth et al. (2019) identified an advance in terms of female inclusion in the political field, but between 2012 and 2016, female representation was still approximately 11%. Regarding education, the authors found that, between 2012 and 2016, approximately 50% of elected mayors had completed higher education.

Table 4. Frequencies of variables gender, reelection, exp. in the legislature, and education.

Variable	Classification	N	Frequency
Gender	Male	1,260	85.6%
	Female	212	14.4%
	Total	1,472	100.0%
Reelection	Yes	496	33.7%
	No	976	66.3%
	Total	1,472	100.0%
Experience in the Legislative branch	Yes	228	15.5%
	No	1244	84.5%
	Total	1,472	100.0%
Education	Reads and writes	20	1.4%
	Incomplete Elementary School	72	4.9%
	Complete Elementary School	88	6.0%
	Incomplete High School	60	4.1%
	Complete High School	384	26.1%
	Incomplete Higher Education	100	6.8%
	Complete Higher Education	748	50.8%
Total	1,472	100.0%	

Source: Research data.

The models, estimated by Feasible Generalized Least Squares [FGLS] for panel data, are exhibited in Table 5. As proposed, the top manager's age (AGE) positively influences city development (Hypothesis 1). This finding reinforces the argument that younger and older managers have different results. Although older managers are more resistant to change and the implementation of new ideas (Hambrick and Mason, 1984; Acar, 2015; Anessi-Pessina and Sicilia, 2020), age seems to be linked to a manager's background experience, which may be relevant to organizational outcome, particularly in the context of the public sector.

Table 5. The influence of the top manager's profile concerning sustainable development.

Independent Variables	Economic Development		Social Development		Environmental Development
	GDP	GDP_PC	IFDM	IDM	IQM
AGE	0.579*** (0.143)	0.246*** (0.057)	0.035* (0.019)	0.139 (0.044)	0.153*** (0.055)
SOCES	0.021** (0.009)	0.002 (0.003)	0.002** (0.0018)	0.003 (0.003)	0.003 (0.003)
GENW	-0.023 (0.036)	0.011 (0.014)	0.008 (0.005)	0.012 (0.011)	0.012 (0.014)
RE_EXP	-0.065** (0.027)	-0.047*** (0.011)	0.000 (0.004)	-0.003 (0.008)	0.013 (0.010)
LEG_EXP	0.301*** (0.035)	0.097*** (0.014)	0.028*** (0.005)	0.044*** (0.011)	0.097*** (0.013)
EDU	0.405*** (0.071)	0.131*** (0.028)	0.021** (0.010)	0.058*** (0.022)	0.089*** (0.027)
POL_OR	-0.024*** (0.007)	-0.011*** (0.003)	-0.001 (0.001)	-0.007*** (0.002)	-0.008*** (0.003)
CONS	6.772*** (0.253)	3.288*** (0.101)	0.537*** (0.034)	-0.025 (0.079)	-0.066 (0.098)
X ²	152.26***	127.60***	50.47***	47.99***	80.82***
N. of Observations	1,472	1,472	1,471	736	1,472
N. of Municipalities	184	184	184	184	184
Min. of Periods	8	8	7	4	8
Max. of Periods	8	8	8	4	8

Note. *** refers to significant at 1%; ** is significant at 5%; and * is significant at 10%. AGE: Age; SOCES: Socioeconomic Status; GENW: Gender (Woman); RE_EXP: Reelection; LEG_EXP: Experience in the Legislative Branch; EDU: Education; POL_OR: Political Orientation. Source: Research data.

The results also show that the top manager's socioeconomic status (SOCES) positively influences economic and social development, as predicted (Hypothesis 2). The rationale is that, while managers with less privileged backgrounds tend to invest in more diverse strategies (Hambrick and Mason, 1984), there is a possibility that managers with high socioeconomic status rely on a more powerful external network (Shipilov and Danis, 2006). Under this argument, it is possible that, managers that are part of a more privileged socioeconomic group have higher likelihood to have a larger contact network and partnerships that can contribute to local development. As we mentioned, this is a feasible rationale, however, it is not possible to establish that this relationship derives from managers' contact networks, since this variable was not measured and investigated in this research.

It has been proposed that women as top managers represent a source of valuable human capital with the potential to create greater value and improve organizational performance (Moreno-Gomez et al., 2018). However, the results indicate that women as city mayors (GENW) have no influence on development (Hypothesis 3). Even though, it is important to mention that, according to the literature, women are more oriented towards socio-environmental issues, while men are more focused on economic performance as previously suggested (Jiang and Akbar, 2018). In this respect, it is argued that, when occupying management positions, women should be more closely involved in social issues (Issa and Fang, 2019). Thus, the inclusion of women in political positions and in government teams might be a positive factor for social and environmental development in local governments.

Public top manager's previous experience proved to be relevant to local development (Hypothesis 4). However, the effect appears to be conditioned by the type of past experience. The results show that a mayor's previous experience in the legislative branch (LEG_EXP) does indeed favor economic, social and environmental development. These findings are in accordance with the UET which suggests that a manager's prior experience is a factor that affects their strategic choices (Hambrick and Mason, 1984). Therefore, previous experience provides managers with an additional source of knowledge (Donatella and Tageson, 2021) and a wider range of skills and more robust decision background, which positively contributes to the decision-making process (Ferreira et al., 2021). In this way, more experienced public managers with background in the legislative branch are potentially in a more favorable position to make wise decisions, in addition to knowing how to deal with problems in a more appropriate and timely manner (Al-Matari et al., 2020).

On the other hand, it is observed that previous experience in the executive branch (RE_EXP), proxied by the reelection, exhibits a negative effect on economic development. The literature has shown that the possibility of reelection has an effect on voters that leads them to evaluate the manager's performance retrospectively,

being able to reward managers who have performed well, or punish those with poor performance (Cavalcante, 2015; Brambor and Ceneviva, 2012). Therefore, when there is a possibility of reelection, it is likely that public managers will strive to present a better performance in order to achieve the prize of reelection. However, in Brazil, managers who have been already re-elected cannot be candidates for another mandate, and this might lead those managers to act in a less result-oriented way, with harmful consequences for local development.

It should be noted that the aforementioned prior experience of mayors in the legislative branch (LEG_EXP) is very favorable to local development. The role of representatives in the legislative branch is to “supervise” government, as well as to draft and pass laws that meet society’s demands (Campagnoni et al., 2016; Raupp and Pinho, 2012). Consequently, public managers with prior experience in the legislative branch are expected to have formed a closer relationship with citizens, which may enable them to identify social demands more clearly. Therefore, in public management, past experience in the legislative branch may strengthen manager’s concern over economic and social aspects that directly impact society’s quality of life.

As proposed, manager’s education level positively influences local development (Hypothesis 5). According to the UET, top manager’s educational level may indicate greater knowledge and skills and be associated with aspects such as ability to innovate (Hambrick and Mason, 1984). A priori, a high education level is expected to help managers to make better decisions, resulting in better organizational performance (Saidu, 2019). In this respect, a high educational level is viewed as being related to better information processing capacity and the ability to distinguish various situations (Tulung and Ramdani, 2016). Therefore, manager’s educational level may positively affect the quality of his/her decisions, leading him/her to better performance (Fujianti, 2018).

As observed, public manager’s political orientation has an inverse relation with local development. It should be remembered that public manager’s political orientation ranges from 0 (most left-oriented) to 10 (most right-oriented). Thus, the negative effect means that a mayor with left-orientation favors economic, social, and environmental development as predicted (Hypothesis 6). Political orientation is a new feature to be investigated in the UET context. Considering that this study sought to apply the UET in a different context, the public sector, political orientation emerges as a relevant factor, since it comprises a set of clues about a mayor’s beliefs, values and inclinations. It has been argued that political orientation is associated with issues related to social welfare, encompassing areas such as health, education, and social security (Imbeau et al., 2001). Furthermore, the inclination of political parties, which tends to be very close to that of their members, is expected to be capable of predicting aspects such as government social spending, or even macroeconomic results (Tarouco and Madeira, 2013).

It is argued that a more right-wing political orientation is often characterized by more conservative beliefs, while a left-wing orientation is generally associated with the pursuit of social and economic equality (Aspelund et al., 2013). In addition, left-wing governments are in favor of greater state intervention, higher income distribution and the implementation of expansionary fiscal and monetary policies, while right-wing governments preach the free market and are less in favor of state intervention (Potrafke, 2012). Therefore, when analyzing development, which comprises aspects intended to achieve economic, social, and environmental well-being, more left-oriented governments are expected to focus more on socioeconomic and environmental issues, given that their main beliefs involve seeking equality and social justice.

In the Brazilian context, with the rise of left-wing governments, investments in social policies were expanded, resulting in greater development (Silva et al., 2019), which is in line with the findings of this research. Moreover, in Brazil, the political agenda of the left-wing governments began to prioritize aspects of a social order, such as eradicating poverty and providing access to education, health and housing (Faé et al., 2016; Silva et al., 2019).

From an environmental perspective, it is noteworthy that the government has come to play a prominent role in the implementation of goals and strategies focused on sustainable development (Omer and Noguchi, 2020), especially in emerging economies (Anwar et al., 2020), as is the case of Brazil. Government entities are fundamental in the process of implementing and monitoring the sustainable development goals (Omer and Noguchi, 2020), and local governments are key players in the drive for development (Atisa et al., 2021). The literature points out that political parties play an important role in the formulation of environmental policies (Bossuyt and Savini, 2018). A previous study was dedicated to investigating the relationship between a more conservative political orientation and issues related to climate and environmental aspects, suggesting that, although there are differences between countries, far-right parties tend to be more resistant to some issues, such as: science climate change, decarbonization policies, and policies favorable to renewable energy and energy efficiency (Hess and Renner, 2019).

6. Final remarks

Among the main research findings, it was found that sustainable development is indeed influenced by the top manager’s attributes. The findings suggest that older managers (Hypothesis 1), mayors with higher socioeconomic status (Hypothesis 2), mayors with a higher educational level (Hypothesis 5), and mayors with left-wing political orientation (Hypothesis 6) seem to be able to promote higher levels of local development. Regarding experience (Hypothesis 4), it is worth mentioning that, while experience in the legislative branch has a positive effect on development, the experience of reelection has the opposite effect, meaning that reelection in the context of local governments appears as detrimental to local development. Concerning the top manager’s gender (Hypothesis 3), no influence was found. Thus, it is highlighted that Hypotheses 1, 2, 5, and 6 were supported. As for Hypothesis 4, legislative experience had a positive influence, while

reelection had a negative effect, leaving room for additional research and debate. Finally, Hypothesis 3 was not supported.

From a theoretical point of view, this article contributes to the literature by providing support for the applicability of the Upper Echelons Theory in the public sector. Although the theory is not new in the field of administrative sciences, it has been little explored in the public sector. Specifically, this research contributes to the understanding of sustainable development taking into account the personal attributes of the public manager using the proposals of the Upper Echelons Theory, suggesting that the public manager's profile plays a crucial role in advancing sustainability in local governments.

The present findings endorse the idea that, in the public sector, as well as in private companies, top manager's profile seems to be relevant for organizational performance. Furthermore, the inclusion of political orientation as a relevant politician attribute was successful given its importance to promote sustainable development. Thus, the study provides results that expand the scope of the Upper Echelons Theory by introducing a relevant component of a manager's profile in the public management context, *i.e.*, the mayor political orientation. Political orientation comprises personal traits such as values, beliefs, and political connections which may indeed matter for managerial behavior.

As social contributions, it can be considered that citizens can take the research findings as additional information that may help choosing public managers. Thus, the results shed light on relevant discussions to the electoral context and the choice of political leaders. For instance, given the negative impact of re-election on development, voters may become more critical regarding the prolonged tenure of politicians in power. Furthermore, the fact that the research analyzed development from a multidimensional perspective, taking into account economic, social, and environmental aspects, is an important contribution and can broaden the debate on the importance of sustainability for social well-being and for the improvement of the citizens life quality. Considering that our research offers a comprehensive measurement of sustainable development through three separate indicators, future studies could explore alternative measurement approaches, such as constructing an index, to capture the complexity of sustainability more effectively.

We envision some avenues for future research. One possibility is investigating the characteristics of the top management team, rather than only the top manager attributes. Another feasible path is to carry out survey-type research, with the application of questionnaires with scales in order to measure psychological constructs, such as personal values and beliefs. Furthermore, qualitative research could help uncovering peculiarities and the presence of certain elements in the context of upper echelons in the public sector.

Lastly, we mention that this research has provided valuable insights regarding the influence of the top manager's profile on sustainable development in local governments. We consider as a profitable advance taking into account other elements that may also be associated with sustainable development, including political, economic, social, cultural, governmental, structural, and institutional factors.

7. References

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